

**Louisiana Department of Environmental Quality (LDEQ)  
Office of Environmental Services**

**STATEMENT OF BASIS**

Oxbow Calcining LLC  
Baton Rouge Calcined Coke Plant  
Baton Rouge East Baton Rouge Parish, Louisiana  
Agency Interest Number: 29884  
Activity Number: PER20090002  
Proposed Permit Number: 0840-00021-V2

**I. APPLICANT**

**Company:**  
Oxbow Calcining LLC  
P.O. Box 4448  
Baton Rouge, Louisiana 70821-4448

**Facility:**  
Baton Rouge Calcined Coke Plant  
2200 Brooklawn Dr  
Baton Rouge, East Baton Rouge Parish, Louisiana  
Approximate UTM coordinates are 668.70 kilometers East and 3384.60 kilometers North, Zone 15

**II. FACILITY AND CURRENT PERMIT STATUS**

The Baton Rouge Calcined Coke Plant produces calcined coke by feeding petroleum coke (green coke) into one of four rotary kilns. The green coke is transported to the facility by railcar and/or trucks. Oversized green coke is crushed and screened until it is properly sized. Coke is stockpiled by grade until it can be introduced into a kiln. In the kiln, the coke is subjected to high temperatures whereby moisture and volatiles are removed. The high temperature of the kiln is sustained by the combustion of natural gas, volatiles, and coke in the presence of excess air. Upon exiting the kiln, the coke is cooled by water sprays in the kiln coolers. Coke is then directed, by compressor, to de-dusting fluid application equipment, where fluid is applied as a fugitive dust inhibitor. The calcined coke is then conveyed to storage to await further processing in the finished product crushing and sizing facility and/or shipment by rail and/or tank.

Oxbow Calcining LLC - Baton Rouge Calcined Coke Plant is a designated Part 70 source. The facility currently operates under permit no. 0840-00021-V1.

**III. PROPOSED PROJECT/PERMIT INFORMATION**

**Application**

A permit application was submitted on February 12, 2009 requesting a Part 70 operating permit renewal and minor modification for the Baton Rouge Calcined Coke

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Plant. Addendums to the permit application, dated December 4, 2009 and March 5, 2010, were also received.

**Project**

Oxbow is incorporating the emission changes associated with an Authorization to Construct (ATC), issued May 1, 2008. The ATC authorized the enclosure of several transfer points associated within the Cooler Area Coke Transfer and Fugitives (FUG 003/EPN 22) and routing of the dust generated by these points to a dust collector for pollution control. These changes resulted in an overall decrease of particulate emissions at the facility. The following changes are also being made in the renewal:

- Updates to the kiln potential-to-emit emission estimates to include hydrochloric acid and hydrofluoric acid emissions based on recent data from stack tests conducted at another Oxbow facility with similar kilns;
- Replacement of a temporary diesel engine (an insignificant activity) with a new kiln startup auxiliary natural gas fired engine (EQT 048);
- Updates to the lead emissions from the four kilns (EQT 004 – 007) to reflect recent stack test results. Based on the recent stack test, Oxbow determined that the permitted lead emission rates did not accurately reflect the potential variability in lead concentration in the raw coke feed;
- Establishment of an alternate SO<sub>2</sub> monitoring approach to the continuous emissions monitoring requirements of LAC 33:III.1511. By letter from the Department, dated July 10, 1992, the facility was authorized to use an alternate monitoring approach; however, previous permits did not include a custom schedule for determining SO<sub>2</sub> emissions from the kilns; and
- Incorporation of existing but not previously included General Condition XVII and insignificant activity sources and the addition of the Diesel Kiln Auxiliary Engine (IA-50) to the facility's insignificant activities list. This activity was approved on February 5, 2010 as a case-by-case insignificant activity and is now being incorporated into the permit renewal.

**Proposed Permit**

Permit 0840-00021-V2 will be the renewal and minor modification of Part 70 operating permit 0840-00021-V1 for the Baton Rouge Calcined Coke Plant.

**Permitted Air Emissions**

Estimated emissions in tons per year are as follows:

| <b>Pollutant</b> | <b>Before</b> | <b>After</b> | <b>Change</b> |
|------------------|---------------|--------------|---------------|
| PM <sub>10</sub> | 283.50        | 275.85       | - 7.65        |
| TSP              | 892.61        | 876.19       | - 16.42       |

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| <b>Pollutant</b> | <b>Before</b> | <b>After</b> | <b>Change</b> |
|------------------|---------------|--------------|---------------|
| SO <sub>2</sub>  | 21,050.80     | 21,050.80    | -             |
| NO <sub>x</sub>  | 1,234.80      | 1,234.80     | -             |
| CO               | 85.60         | 85.60        | -             |
| VOC              | 25.37         | 25.29        | - 0.08        |

| <b>LAC 33:III Chapter 51 Toxic Air Pollutants (TAP)</b> |               |              |                |
|---|---------------|--------------|----------------|
| <b>VOC TAP</b>  | <b>Before</b> | <b>After</b> | <b>Change</b>  |
| Benzene   | -             | < 0.01       | + < 0.01       |
| bis(2-ethylhexyl)phthalate                              | 0.40          | 0.52         | + 0.12         |
| Dibutyl phthalate                                       | 0.40          | 0.36         | - 0.04         |
| Diethyl phthalate <sup>(1)</sup>                        | -             | -            | -              |
| Dimethyl phthalate                                      | 0.04          | 0.04         | -              |
| Ethylbenzene  | -             | < 0.01       | + < 0.01       |
| n-Hexane  | -             | < 0.01       | + < 0.01       |
| Naphthalene   | 0.04          | 0.02         | - 0.02         |
| Polycyclic Aromatic Hydrocarbons <sup>2</sup>           | 0.12          | 0.13         | + 0.01         |
| Phenol  | 1.24          | 1.30         | + 0.06         |
| Toluene   | -             | < 0.01       | + < 0.01       |
| Xylene (mixed isomers)                                  | -             | < 0.01       | + < 0.01       |
| <b>VOC TAP Total<sup>(1)</sup></b>                      | <b>2.24</b>   | <b>2.37</b>  | <b>+ 0.13</b>  |
| <b>Non-VOC TAP</b>                                      | <b>Before</b> | <b>After</b> | <b>Change</b>  |
| Copper (and compounds)                                  | 0.40          | 0.31         | - 0.09         |
| Hydrochloric acid                                       | -             | 70.08        | + 70.08        |
| Hydrogen fluoride                                       | -             | 3.28         | + 3.28         |
| Lead compounds  | 0.40          | 0.88         | + 0.48         |
| Nickel (and compounds)                                  | 8.40          | 8.56         | + 0.16         |
| Zinc (and compounds)                                    | 8.04          | 8.07         | + 0.03         |
| <b>Non-VOC TAP Total</b>                                | <b>17.24</b>  | <b>91.18</b> | <b>+ 73.94</b> |
| <b>TAP Total</b>  | <b>19.48</b>  | <b>93.55</b> | <b>+ 74.07</b> |
| <b>Other VOC Total</b>                                  | <b>23.13</b>  | <b>22.92</b> | <b>- 0.21</b>  |

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#### IV REGULATORY ANALYSIS

The applicability of the appropriate regulations is straightforward and provided in the Specific Requirements section of the proposed permit. Similarly, the Monitoring, Reporting and Recordkeeping necessary to demonstrate compliance with the applicable terms, conditions and standards are also provided in the Specific Requirements section of the proposed permit.

##### Applicability and Exemptions of Selected Subject Items

| ID No:                           | Requirement   | Notes  |
|----------------------------------|---|--|
| UNF 01<br>BR Calcined Coke Plant | Chemical Accident Prevention and Minimization of Consequences [LAC 33: III. Chapter 59]                               | DOES NOT APPLY. Does not meet the threshold quantity requirements of any regulated substance.  |
|                                  | Chemical Accident Prevention Provisions [ 40 CFR 68 ]   |  |
|                                  | NESHAPS Subpart M – National Emission Standard for Asbestos [40 CFR 61.145]   | EXEMPT. Shall comply with the regulations under this Subpart if triggered. Applies to owner or operator of a facility being demolished or renovated.   |
| EQT 01 – 04<br>Kilns 1 – 4       | NSPS 40 CFR 60 Subpart Y- Standards of Performance for Coal Preparation Plants [40 CFR 60.250 ]                       | DOES NOT APPLY. Green petroleum coke does not meet the definition of coal.   |
|                                  | NSPS 40 CFR 60 Subpart OOO - Standards of Performance for Nonmetallic Mineral Processing Plants [40 CFR 60.671 ]      | DOES NOT APPLY. Green petroleum coke is not defined as a nonmetallic mineral.  |
|                                  | NSPS 40 CFR 60 Subpart UUU - Standards of Performance for Calciners and Dryers in Mineral Industries [40 CFR 60.741 ] | DOES NOT APPLY. Green petroleum coke does not meet the definition of a mineral industry.   |
|                                  | 40 CFR 61 Subpart L - National Emission Standards for Benzene Emissions from Coke By-Product Recovery Plants          | DOES NOT APPLY. A Coke By-Product Recovery Plant produces green petroleum coke from coal. Calcined Coke produced from Green Petroleum Coke does not meet the definition of a Coke By-Product Recovery Plant. |

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| ID No:                                   | Requirement   | Notes  |
|--|---|--|
| EQT 01 – 04<br>Kilns 1 – 4 (cont)        | 40 CFR 63 Subpart CCCCC - National Emission Standards for Hazardous Air Pollutants for Coke Ovens: Pushing, Quenching, and Battery Stacks | DOES NOT APPLY. Coke ovens produce green petroleum coke from coal. Calcined coke produced from green petroleum coke does not meet the definition of a coke oven under 40 CFR 63 Subpart CCCCC. |
|  | Control of Emissions of Nitrogen Oxides<br>[LAC 33:III.2201]  | EXEMPT. Kilns and ovens used for drying, baking, cooking or calcining are exempt per LAC 33:III.2201.C.7.  |
| EQT 14<br>Unleaded Gasoline Storage Tank | Control of Emission of Organic Compounds<br>[LAC 33:III.2131.A]   | EXEMPT. Facilities with throughput <120,000 gallons per year are exempted from installing vapor recovery systems for displaced vapors.   |

**Prevention of Significant Deterioration/Nonattainment Review**

PSD review is not required.

**Streamlined Equipment Leak Monitoring Program**

There is no leak monitoring program.

**MACT Requirements**

This facility is a major source of toxic air pollutants (TAPs) pursuant to LAC 33:III.Chapter 51. The facility emits Class I and Class II TAPs for which the total facility-wide emissions exceed the minimum emission rate (MER). MACT for all affected sources is determined to be no additional controls.

**Air Quality Analysis**

Emissions associated with the proposed modification were reviewed by the Air Quality Assessment Division to ensure compliance with the NAAQS and AAS. LDEQ did not require the applicant to model emissions.

**General Condition XVII Activities**

The facility will comply with the applicable General Condition XVII Activities emissions as required by the operating permit rule. However, General Condition XVII Activities are not subject to testing, monitoring, reporting or recordkeeping

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requirements. For a list of approved General Condition XVII Activities, refer to the Section VIII – General Condition XVII Activities of the proposed permit.

**Insignificant Activities**

All Insignificant Activities are authorized under LAC 33:III.501.B.5. For a list of approved Insignificant Activities, refer to the Section IX – Insignificant Activities of the proposed permit.

**V. PERMIT SHIELD**

No permit shield is being requested..

**VI. PERIODIC MONITORING**

| Source ID                  | Citation(s)         | Monitoring Requirement  |
|----------------------------|---------------------|---|
| CRG 0001<br>Baghouses      | 40 CFR 64.6(c)(1)   | Visible emissions monitored daily                                   |
| EQT 0004-0007<br>Kilns 1-4 | LAC 33:III.1101.B   | Opacity monitored by visual inspection/determination daily.         |
|                            | LAC 33:III.1511.C.3 | SO <sub>2</sub> monitored by calculation on a 3-hour average basis. |

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## **VII. GLOSSARY**

**Carbon Monoxide (CO)** – A colorless, odorless gas, which is an oxide of carbon.

**Maximum Achievable Control Technology (MACT)** – The maximum degree of reduction in emissions of each air pollutant subject to LAC 33:III.Chapter 51 (including a prohibition on such emissions, where achievable) that the administrative authority, upon review of submitted MACT compliance plans and other relevant information and taking into consideration the cost of achieving such emission reduction, as well as any non-air-quality health and environmental impacts and energy requirements, determines is achievable through application of measures, processes, methods, systems, or techniques.

**Hydrogen Sulfide (H<sub>2</sub>S)** – A colorless inflammable gas having the characteristic odor of rotten eggs, and found in many mineral springs. It is produced by the reaction of acids on metallic sulfides, and is an important chemical reagent.

**New Source Review (NSR)** – A preconstruction review and permitting program applicable to new or modified major stationary sources of air pollutants regulated under the Clean Air Act (CAA). NSR is required by Parts C (“Prevention of Significant Deterioration of Air Quality”) and D (“Nonattainment New Source Review”).

**Nitrogen Oxides (NO<sub>x</sub>)** – Compounds whose molecules consist of nitrogen and oxygen.

**Organic Compound** – Any compound of carbon and another element. Examples: Methane (CH<sub>4</sub>), Ethane (C<sub>2</sub>H<sub>6</sub>), Carbon Disulfide (CS<sub>2</sub>)

**Part 70 Operating Permit** – Also referred to as a Title V permit, required for major sources as defined in 40 CFR 70 and LAC 33:III.507. Major sources include, but are not limited to, sources which have the potential to emit:  $\geq 10$  tons per year of any toxic air pollutant;  $\geq 25$  tons of total toxic air pollutants; and  $\geq 100$  tons per year of regulated pollutants (unless regulated solely under 112(r) of the Clean Air Act) (25 tons per year for sources in non-attainment parishes).

**PM<sub>10</sub>** – Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured by the method in Title 40, Code of Federal Regulations, Part 50, Appendix J.

**Potential to Emit (PTE)** – The maximum capacity of a stationary source to emit any air pollutant under its physical and operational design.

**Prevention of Significant Deterioration (PSD)** – A New Source Review permitting program for major sources in geographic areas that meet the National Ambient Air Quality Standards (NAAQS) at 40 CFR Part 50. PSD requirements are designed to ensure that the air quality in attainment areas will not degrade.

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Sulfur Dioxide (SO<sub>2</sub>) – An oxide of sulfur.

Sulfuric Acid (H<sub>2</sub>SO<sub>4</sub>) – A highly corrosive, dense oily liquid. It is a regulated toxic air pollutant under LAC 33:III.Chapter 51.

Title V Permit – See Part 70 Operating Permit.

Volatile Organic Compound (VOC) – Any organic compound, which participates in atmospheric photochemical reactions; that is, any organic compound other than those, which the administrator of the U.S. Environmental Protection Agency designates as having negligible photochemical reactivity.